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Issues for Women in Canadian Education

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Foreword

More than ever before, the skills of the Canadian work force will determine individual and collective prosperity. Canadians face the challenge of competing in a globalized world economy. How successfully that challenge is met will be determined by the skills and the brains of the Canadian people.

The Economic Council has examined the Canadian education and training system and has identified some key areas where changes are needed. Our research and conclusions are summarized in the Council Statement, *A Lot to Learn*, published in April 1992.

The working paper, by Jane Gaskell, presents some of the background research to that Statement. It addresses the issue of education from the perspective of women. Enrollments of both men and women in science and math at the postsecondary level are falling – at a time when there is a need for Canada to develop high-tech skills. Further, women continue to represent only a very small proportion of enrollment in these and other technical fields.

But women's issues in education go beyond the need to draw upon the skills and ideas of all Canadians to contribute to Canada's ability to compete in a high-tech world. Women continue to be overrepresented in traditional service occupations, most often in low-paying jobs. Few occupy management positions and many must work part-time when they would prefer full-time employment.

In this working paper, Jane Gaskell draws upon her own research and a large body of literature to argue that the roots of many of the problems faced by girls and women in our society can be found in the educational system – in the material that is taught, in how it is taught, and in how girls' perceptions of themselves and the world around them are shaped.

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Judith Maxwell
Chairman

Introduction

Educational issues are important for understanding and improving the status of women. The Royal Commission on the Status of Women stated in 1970 that "changes in education could bring dramatic improvements in the social and economic position of women in an astonishingly short time . . . education opens the door to almost every life goal" [161]. Although at other times and in other places less optimistic versions of the power of education can be heard, the general belief that education has a dramatic impact on the life chances of girls and women, for better or for worse, has been widespread.

Women's issues are also important for understanding and improving education. This is perhaps less widely recognized. Too often, the issues that have been salient in men's education have been the ones that have been studied and the ones that have provided the policy directions for change in education. When women's experiences in education are made the focus of attention, the shifted angle of vision brings different issues into view and makes different analyses plausible. For example, a look at how women's achievement in school is related to their experience in the labour market forces a reevaluation of any simple equation between educational achievement and labour market success, for while women succeed at least as well as men in school, they lag far behind at work. An examination of the problem of school dropouts from the point of view of teenage women makes issues of birth control, pregnancy, and child care as important as the organization of instruction, for pregnancy is a crucial factor associated with female dropout rates. A look at curriculum from the perspective of women makes visible the omission of women in the mandated curriculum and suggests changes in how the subject matter is conceptualized and how social and affective issues are treated in schools. When the study of education makes women's experience as salient as male experience, new ways of thinking about achievement and quality in education have to be entertained.

The economic issues surrounding women's education deserve close attention, for the economic roles women perform are varied, changing, and often not well understood. We do not adequately measure the unpaid economic contribution women make to Canadian society. Common measures of a country's productivity and of the extent of economic participation, like the gross national product (GNP) and the "labour force," ignore women's domestic labour. Important notions like skill and human capital have been defined in ways that eclipse the strengths women bring to their work. The wages women earn for their economic contribution also underestimate in many ways the value of this contribution, for it has historically been possible for employers to pay women less than men for work of equal value.

But women's work is fundamental to how things get done. The educational system must make sure people learn how to perform it, and the reward system

must recognize its value. For women are increasingly less likely to do it for free or for pocket money, and to learn how from their mothers and friends. This poses a new challenge for education and for the economy.

In this paper I will outline some of the educational issues that have been of most concern to feminist researchers. I do this not in the hope that they will simply be added on to the agenda, but in the hope that they will inform the way the entire study of education is conceptualized. The paper starts with issues of achievement and their relation to the economy. It turns then to the curriculum and "really useful knowledge." Finally, teaching and the governance of education are discussed.

Succeeding in School

Doing well in school matters, both because we value the things taught there, and because there is an assumed linkage between achievement in school and achievement at work. Workplace issues have raised concerns about women's educational achievement to the national agenda. Women earn incomes that are substantially lower than men's, both because they work in different jobs from men, on average, and because they are less well paid for the work they do. These workplace findings constitute the clearest evidence of women's inequality. Tracing them to some inadequacy in women's educational achievement is very common, given both academic theories of the linkage (human capital theory, status attainment models, and the like) and Canada's widely held liberal ideology of meritocracy based in schooling.

It is difficult to get adequate data on differential achievement by sex in school. However, there are some fairly robust findings about women's achievement which show that by and large women do as well as men. The research also calls attention to different ways of defining and measuring achievement, to their potential gender biases, and to the ways achievement in school is linked to the workplace.

Attainment – Years of Schooling

Women have been more likely than men to graduate from elementary school and from high school since the turn of the century. At the turn of the century, secondary schooling was of most use to those who wanted to become teachers, and educators were worrying about the "feminization" of the school and trying desperately to think of ways to make schooling relevant for boys [Weiss 1982; Rosenberg 1982]. Young men tended to leave school early for employment and on-the-job training and experience. Young women stayed in the more protective environment of the school and needed more education to

qualify for properly female, middle-class jobs as teachers, or clerical workers, where pre-entry training was required, and little further education was offered on the job.

More recently, with the tremendous expansion of secondary schooling, the educational attainment of men and women in Canada has become much more equal. Women are still somewhat more likely to have completed secondary school. Men are somewhat more likely to have completed postsecondary schooling. As a very small percentage of the population has gone on to postsecondary education until recently, women's years of educational attainment have been virtually the same as men's years of educational attainment (Table 1). Both men and women with more education are more likely to participate in the labour force, but women's participation increases more than men's. The result is that the educational attainment of women in the labour force is higher than the educational attainment of men in the labour force (Table 2).

Enrollment data provide a picture of what is happening today, and what we can anticipate for the labour force in the future. Women's deficit at the postsecondary level is rapidly diminishing (see Chart 1). More young women than young men are presently enrolled in and are graduating from universities and colleges. It is projected that by 2001, 42 per cent of men and 40 per cent of women in Canada will have a postsecondary education, and by 2021, slightly more women than men will have university degrees [Economic Council 1990]. Women still earn fewer graduate degrees than men, but the numbers are small in relation to the population at large, and here again the difference is decreasing (see Chart 2).

The major conclusion from this is that, on the average, women's educational attainment is not less than men's. In the few high-status areas – graduate and professional programs, B.A.s and B.Sc.s – where women have in the past attained less, the difference is gone or rapidly decreasing. And if men and women in the labour force are compared, women have more years of education than men. So women's lack of schooling cannot explain their lower wages [Gaskell 1991; Picot 1980; Boyd 1982]. Their higher levels of education make their lower wages harder, not easier to understand within the usual human capital paradigms. If one simply enters education into an equation in an attempt to explain the differential between women's wages and men's wages, the differential becomes more inexplicable, not less [Ornstein 1982; England 1982; England et al. 1982].

Women in the labour force earn less than men in the labour force at every level of education (Table 3). The gap is over $13,000 for university graduates working full time. If women were paid for their education as much as men are paid for their education, women would be much better off. The problem for women lies in the ways their education and skills are recognized, rewarded, and continued at work, not in their lack of educational attainment.

Table 1

Educational attainment of the population aged 15 years and over, by sex, Canada, 1971 and 1988

	1971	1988
Educational attainment		
Less than grade 9		
Percentage of all women	32.2	17.2
Percentage of all men	34.8	17.8
High school*		
Percentage of all women	51.2	49.3
Percentage of all men	45.6	47.4
Some postsecondary		
Percentage of all women	6.7	9.4
Percentage of all men	8.4	9.5
Postsecondary certificate or diploma		
Percentage of all women	7.1	14.1
Percentage of all men	5.0	11.7
University degree		
Percentage of all women	2.9	10.0
Percentage of all men	6.2	13.6
Total		
Women	100.0	100.0
Men	100.0	100.0
	(in thousands)	
Total population		
Women	7,655.0	10,197.0
Men	7,532.0	9,692.0

*Includes persons who have either completed or attended high school.

Source: Statistics Canada, Labour Force Survey, unpublished data; Statistics Canada [1990, 66]; and G. Picot [1980].

Achievement

Are there achievement differences between men and women, girls and boys, that would explain their differential success in the labour market, even though they spend the same number of years in school? The long tradition of research on sex differences has amounted to an attempt to explain adult gender inequalities on the basis of differences in achievement and personal characteristics. Are girls less aggressive, less good at mathematics or more con-

Table 2

Labour force participation by educational attainment and sex, 1989

	Number in labour force	Participation rate		Percentage of labour force that is male
		Percentage of all women	Percentage of all men	
Education				
0–8 years	1,260	23.9	50.8	67
9–13 years	6,611	58.0	78.6	55
Some postsecondary	1,419	69.2	79.9	53
Postsecondary certificate diploma	2,198	74.2	88.6	49
University	2,014	79.7	88.9	58
Total	13,503	57.9	76.7	56

Source: Statistics Canada [1990, 11 and 20].

cerned about personal relations, and can this explain their differential success at school and at work?

The research literature on achievement differences has too often become an attempt to explain away inequities on the basis of something inherent in maleness and femaleness [Maccoby and Jacklin 1974]. Female characteristics are correlated with, and considered to be the cause of lower performance, even when making the connection involves a tortuous argument. As Jeri Wine puts it,

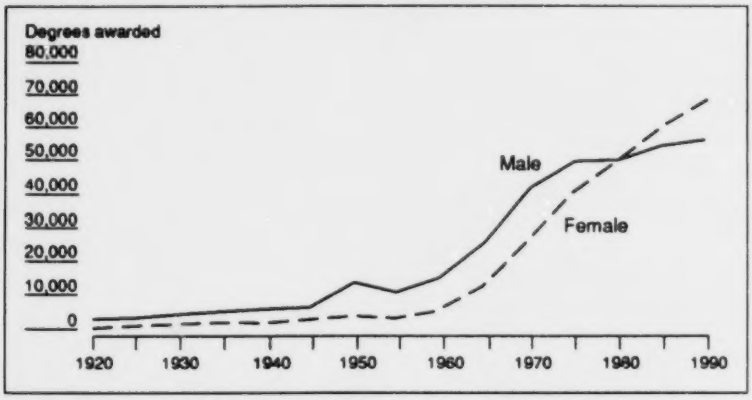
> The sex differences literature is replete with ludicrous interpretations such as aggressiveness, egocentrism and single minded achievement being highly valued, while nurturance is viewed as weakness, environmental responsiveness is labelled 'field dependence' and devalued, and spatial abilities are considered more essential than verbal abilities and so on [1990, 28].

It is not just the valuing, but the causal relations between these characteristics and achievement that are often far-fetched. The kind of interdependence that women tend to exhibit could well be expected to lead to higher achievement, not lower achievement. Only with hindsight would one suppose that babies who cry more are more likely to succeed.

Recent research has come to the conclusion that the achievement differences between males and females are less clear than they once were, and are

Chart 1

Undergraduate degree attainment by sex, 1920-88



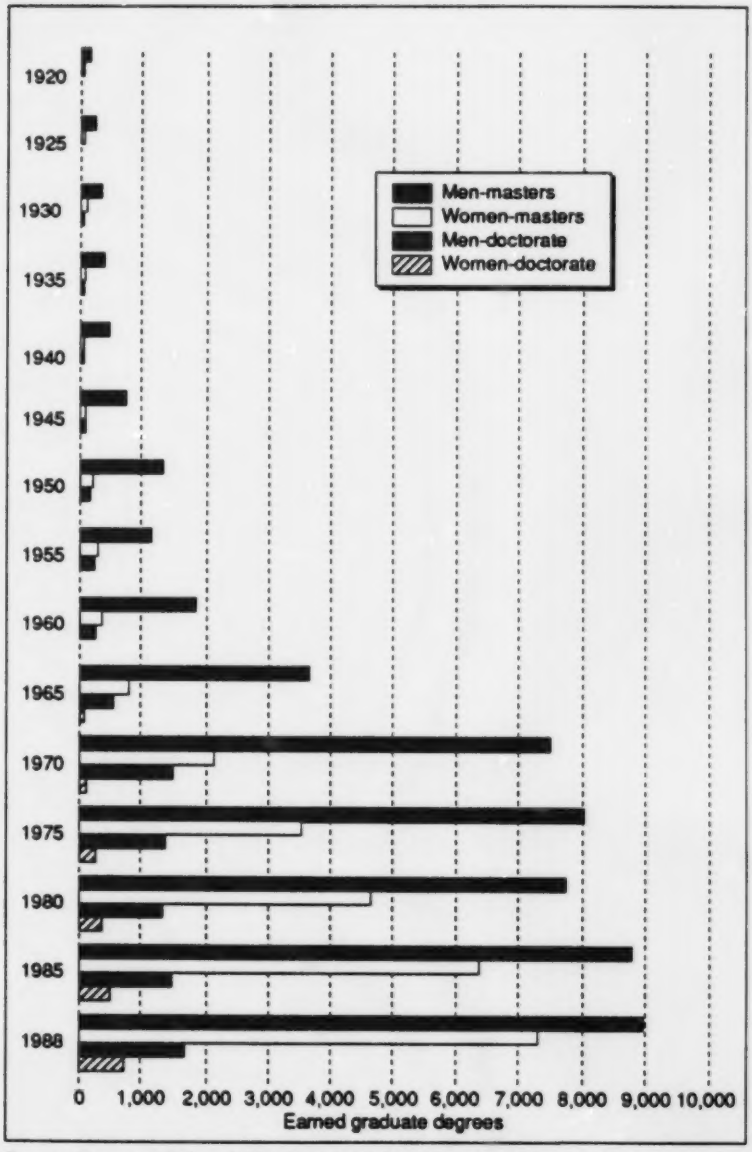
Source: Guppy and Bellamy [1991]; Statistics Canada, *Education in Canada, 1988-89*, Cat. 81-229.

very dependent on the type of measuring instrument used, and the context of its use [Fennema 1979; Hyde and Linn 1986; Linn and Hyde 1989]. Sex differences in verbal ability, spatial visualization, and mathematical computation seem to have declined. To generalize, the research at the moment suggests girls do better on marks from teachers; boys do better on standardized tests [Sadker et al. 1986; B.C. Ministry of Education 1985]. Girls do better on items that involve traditionally "female" areas of activity, while boys do better on items with traditionally "male" content. Males remain somewhat more confident and interested in math and science [Linn and Hyde 1989]. And taking courses improves students' proficiency in a subject; so enrollments are related to achievement [Benbow and Stanley 1980, 1982, and 1983; Fennema 1979; Smith and Walker 1988].

Mathematics and science are the areas where concern about girls' achievements has most often been expressed [Science Council 1982]. Mathematics was labelled the "critical filter" by some early researchers [Sells 1973; Toronto Board of Education 1983], and "math anxiety" is the subject of workshops and curriculum interventions [Tobias 1978; Tobias and Weissbrod 1980; Wood 1988]. One recent review concluded that girls do as well as boys in elementary school mathematics, girls do better than boys in junior high, while in high school and beyond, boys do better than girls [Campbell 1986]. Other studies find girls do better in computation, and boys do better in mathematical reasoning [Brandon et al. 1987; Doolittle and Cleary 1987]. Girls seem to have less positive attitudes towards mathematics [Mura et al. 1987; Wiggan

Chart 2

Masters and doctorate degrees by sex, 1920-88



Source Guppy and Bellamy [1991]; Statistics Canada, *Education in Canada, 1988-89*, Cat. 81-229.

Table 3

Average annual earnings of full-year/full-time workers by educational attainment and sex, Canada, 1971 and 1987

	Earnings of full-year/full-time workers in current dollars					
	1971			1987		
	Women	Men	Women's earnings as a % of men's	Women	Men	Women's earnings as a % of men's
Educational attainment						
Less than grade 9	3,732	6,722	55.5	15,077	25,454	59.2
High school	4,734	8,332	56.8	18,042	28,444	63.4
Some postsecondary	5,903	9,955	59.3	20,092	31,068	64.7
Postsecondary certificate or diploma	6,569	9,813	66.9	21,850	31,782	68.7
University degree	9,541	15,589	61.2	31,259	44,891	69.6
Total	5,232	8,770	59.7	21,012	31,865	65.9

Source: Statistics Canada [1990, 69].

1988] and to attribute their success to hard work rather than to aptitude, as the boys do. A 1988 Educational Testing Services (ETS) study of high-school seniors found no significant gender differences in achievement in mathematics in the United States [Lapointe et al. 1989]; and Robitaille also concludes "there are now relatively few statistically significant differences between the performance levels attained by boys and girls in most countries, including Canada" [Robitaille 1990, 33].

In science, males outperformed females in the ETS study. Studies of science achievement have also found differences between the kinds of items where girls do better, and the kinds of items where boys do better. Linn et al. [1987] found sex differences on content items but not on inquiry items. Girls were more likely to choose "I don't know" rather than guessing, especially for items with physical science content or masculine themes (e.g., football). The authors of this study recommend the use of more gender neutral items.

The problem of women's achievement, I conclude, has been overplayed. These differences were always small, and in the last two decades they have declined. Differences arise in some contexts and not in others, and they can

be influenced by educational programs. How competencies are defined and measured makes a big difference to what conclusions one can draw.

The public debate has tended to focus on the results of standardized tests – international math and science achievement studies, scholastic aptitude tests, and increasingly the standardized examinations that are given in the secondary schools. The results of such testing are certainly worth monitoring, but it is important to keep in mind the limitations of such tests. Many aptitudes, from writing a paragraph, to creative and interpersonal sensitivity, are not easily or often tested on these mass administered multiple choice tests. The subjective assessments of teachers are more comprehensive and can be attuned to differences in styles of learning and of expression. Do we measure achievement in ways that represent the strengths of females as much as the strengths of males, or are our tests biased towards male competencies?

There has been little research on the consequences of low male achievement in areas of language and interpersonal competence, presumably because no one has been worried that it disadvantages men in the long run, in the economy where it counts. The public definition of when achievement is a problem has tended to come from the workplace, from employers, and not from teachers. Women's achievement levels are defined as a problem not because women attain less in school, but because they ultimately attain less at work. Course choices, occupational choices, and the factors which influence these choices are closer to where the problems lie for women.

Enrollment Patterns

The segregation of women's work and men's work is pronounced. Women are 80 per cent of clerical workers, but only 2 per cent of construction workers; they are most of the nurses, but few of the lawyers. The fact that men and women so often work in different kinds of jobs explains a good deal of their differential experience at work.

This segregation is reflected in patterns of enrollment in the schools. Young women spend as many years in school as young men, but they spend them studying in different programs, with different economic and personal consequences. Differences in patterns of enrollment are much more marked than differences in attainment or achievement. There is some evidence that segregation is beginning to decrease in the school as it is in the labour market, but the problem remains a substantial one. More educated and well-paid women seem to be gaining faster than the less advantaged.

In the elementary school, segregation by sex is only an informal process, for classes are coeducational and students do not have curriculum options.

By the time students get to secondary schools, course electives allow male and female students to migrate to different courses which set them on different trajectories into the labour market. More young women "choose" business education, home economics, and languages. More young men "choose" industrial education, the physical sciences, and mathematics. It is difficult to get consistent statistics on these differences in the secondary schools, as provinces collect their own statistics in their own way, many do not include sex in their analysis, and the definition of courses and streams in the secondary schools is complex and variable. A new agreement by the Council of Ministers to coordinate their gathering of statistics may help clarify what is happening to enrollment patterns by sex in the secondary schools.

Enrollment of females in mathematics and physical science courses has been a particular concern [Science Council of Canada 1982; Status of Women Canada and Manitoba Women's Directorate 1989]. Table 4 gives some recent figures on enrollments, confirming the relatively lower female enrollment in physics, advanced mathematics, and computer science. The general social survey shows an increase in the number of women taking physics, while the number of men is declining [Statistics Canada 1989]. Recent B.C. statistics show a slight increase in the percentage of women among all students in sciences between 1986 and 1989. The percentage of young women in physics is still very low (23 per cent), and it has not increased since 1986. In chemistry,

Table 4

Percentage of women and men in selected high-school courses (various provinces, various years)

	Women	Men
Course		
Physics		
Ontario, 1982	29	70
Alberta, 1983	24	76
Manitoba, 1986	37	63
British Columbia, 1987	21	79
Mathematics (advanced)		
Alberta, 1983	28	72
Manitoba, 1986	36	64
British Columbia, 1986	44	56
Computer Science		
Manitoba, 1986	29	71
British Columbia, 1987	23	77

Source: Status of Women, Canada and Manitoba Women's Directorate [1989].

43 per cent of grade 12 and 50 per cent of grade 11 enrollment is female, up marginally from 1986. In grade 12 algebra, a constant 45 per cent of enrollment is female, and in geometry, 35 per cent is female, up from 31 per cent in 1986 [B.C. Ministry of Education 1991, 6-7].

My own concern has been the pre-eminent importance business courses have had for young women. Business courses in the secondary schools have emphasized clerical and secretarial training and been populated with young women wanting these jobs [Gaskell 1985]. Although it is not clear what is happening to enrollments, these courses seem to be moving from an emphasis on training young women to be secretaries towards more coeducation and emphasis on life skills and perhaps on entrepreneurship [Gaskell 1986]. Many schools, but certainly not all, now offer coeducational introductions to home economics and industrial education subjects. A recent look at what goes on inside these coeducational classrooms shows that gender divisions and the informal power of male students continue unabated [Eyre 1991].

At the level of the community college and the university, differences in enrollments are fairly consistently recorded, and they are pronounced. At the colleges, more women take business programs, and programs in health, education, and community service areas. Men are more likely to be enrolled in the trades, sciences, and technologies. Table 5 indicates that more women were enrolling in transportation and engineering in 1988-89 than in 1975-76. Education and business, fields already dominated by women, are becoming even more completely dominated by women.

At the university, women have made major strides in previously male dominated professional faculties like commerce, medicine, and law (see Table 6). They have also increased their enrollment in the traditionally female areas of education, arts, and social work. Men continue to dominate in the science faculty, in engineering and dentistry. Within the arts and science faculties, differences by department are often substantial, although they do not show up in Statistics Canada data. There are more women in English than economics, in zoology than in physics.

In trades training, vocational programs, Canada Employment and Immigration Commission (CEIC) sponsored courses, and on-the-job training, clear sex differences in enrollments persist. The distribution of women and men in training coincides with the sexual segregation of the labour force (see Table 7). The most striking thing is the concentration of women in clerical training. Boothby [1986] found that 42 per cent of all women enrolled in CEIC institutional training programs were enrolled in clerical programs, and 1.3 per cent of men were enrolled in such programs. Table 7 shows that the percentage of women enrolled in secretarial programs (many of these would not be sponsored by CEIC) declined from 20 to 16 per cent between 1983 and 1986,

Table 5

Diploma attainment by sex, field of study, and year (college diplomas), 1975-76 and 1988-89

	1975-76			1988-89		
	Total diplomas	Diplomas to women		Total diplomas	Diplomas to women	
	(Number)		(%)	(Number)		(%)
Field of study						
Medical	11,742	10,847	92.4	11,249	9,466	84.1
Education	5,096	4,148	74.1	2,316	2,117	91.4
Business	8,684	5,182	59.7	15,671	10,432	66.6
Arts	3,106	1,338	43.1	4,678	2,684	57.4
Natural resources	2,018	382	18.9	2,654	795	30.0
Engineering	2,119	179	8.5	12,647	2,066	16.3
Transportation	253	5	2.0	197	21	10.7
Technologies	2,553	226	8.9	..	..	..
Other/ miscellaneous	393	123	31.3	7,525	5,139	68.3
No report	561	222	39.6	92	37	40.2
Total	38,334	23,082	60.2	57,029	32,757	57.4
IQV[1]		0.737			0.836	

Note: .. indicate figures not available. Field of study as designated by Statistics Canada. Technology field not designated by Statistics Canada in 1988-89.

1 IQV – Index of Qualitative Variation: this statistic measures the extent to which degree attainment is concentrated in certain fields; a higher figure indicates greater dispersion or less concentration (non-classified degrees have been excluded in the calculation).

Source: Statistics Canada, *Enrolment in Community Colleges*, Cat. no. 81-222, p. 184; and Guppy and Bellamy [1991].

but the concentration of women in the programs increased from 92.6 to 96.2 per cent.

Apprenticeships are even more dramatically sexually segregated. Only 3.1 per cent of those completing registered apprenticeships in 1987 were women, down from 3.6 per cent in 1984 (see Table 8). Some recent statistics from British Columbia show an even more dismal picture. A joint study by the Amalgamated Construction Association of British Columbia and Employment and Immigration Canada [1990] reported that there were 64 women registered with the apprenticeship board in the construction trades. This is about 1.1 per cent of the total number of apprentices in British Columbia. The jobs in which women predominate tend not to require apprenticeship.

Table 6

Degree attainment by sex, field of study, and year (bachelor and first professional university degrees), 1970-71 and 1988-89

	1970-71			1988-89		
	Total degrees	Degrees to women		Total degrees	Degrees to women	
	(Number)		(%)	(Number)		(%)
Field of study						
Household science	629	625	99.4	1,078	1,021	94.7
Nursing	1,258	1,221	97.0	2,406	2,313	96.1
Health occupations	280	221	78.9	1,514	1,105	73.0
Social work	319	175	54.9	1,749	1,403	80.2
Applied arts	1,165	639	54.8	3,559	2,324	65.3
Education	15,406	8,129	52.8	16,196	11,339	70.0
Arts	19,393	7,802	40.2	33,841	19,867	58.7
Pharmacy	441	169	38.3	725	461	63.6
Biological science	1,837	517	28.1	5,133	2,546	49.6
Physical sciences	3,870	751	19.4	7,229	2,019	27.9
Medicine	1,432	211	14.7	2,274	951	41.8
Agriculture	502	61	12.2	741	341	46.0
Law	1,958	183	9.3	3,334	1,505	45.1
Veterinary medicine	132	11	8.3	258	153	59.3
Commerce	3,444	215	6.2	12,567	5,592	44.5
Dentistry	369	16	4.3	504	151	30.0
Engineering	4,426	51	1.2	7,113	782	11.0
Non classified	10,090	4,453	44.1	3,554	1,860	52.3
Total	66,951	25,450	38.0	103,775	55,733	56.1
IQV[1]		0.749			0.849	

1 IQV – Index of Qualitative Variation: this statistic measures the extent to which degree attainment is concentrated in certain fields; a higher figure indicates greater dispersion or less concentration (non-classified degrees have been excluded in the calculation).

Source: Statistics Canada, *Educational Statistics for the Seventies*, Cat. 81-569 and *Education in Canada*, Cat. 81-229; and Guppy and Bellamy [1991].

Women are also underrepresented in skill upgrading programs, because they require students to be already employed in particular areas where women are underrepresented, and in language training, again because of requirements

that require participation in the labour market, and exclude women who come to Canada as dependents.

Women face many barriers in entering training programs as adults, but the greatest are money and child care. Women lack the resources to give up their jobs to enter full-time training programs. Employers are less likely to sponsor women than they are to sponsor men in training courses [Devereaux 1984]. Three out of every five poor adults in Canada are women [Gunderson 1990]. The lack of affordable child care is a major barrier for many women. Eighty-nine per cent of all single-parent families are women, and half of them live below the poverty line. The poverty of female single-parent households is both a cause of low participation in training and an outcome, at least partially, of this lack of training.

Table 7

Women as a percentage of trade and vocational completions, by field of study, Canada, 1983-84 and 1986-87

	1983-84			1986-87		
	Women	Women as a % of total[1]	Distribution for women	Women	Women as a % of total[1]	Distribution for women
	(Number)	(Per cent)		(Number)	(Per cent)	
Field of study						
Arts and science	6,100	43.6	19.9	9,095	59.1	23.5
Fine and applied arts	2,285	75.2	7.5	2,047	77.4	5.3
Humanities	3,132	43.7	10.2	3,943	41.9	10.2
Health sciences	2,349	66.3	7.7	2,738	81.8	7.1
Social sciences	5,556	63.5	18.2	9,135	77.3	23.6
Business and commerce	8,637	71.7	28.2	9,242	70.0	23.9
Secretarial science	6,148	92.6	20.1	6,248	96.2	16.2
Technologies	2,149	4.4	7.0	1,888	4.2	4.9
Natural sciences and primary industries	317	11.4	1.0	573	19.9	1.5
Other	57	58.2	0.2	10	14.3	0.0
Total	30,582	30.4	100.0	38,671	37.2	100.0

1 Wherever a province is not able to provide a complete breakdown by sex, women as a percentage of the total is calculated on the basis of those completions where sex is reported.

Source: Statistics Canada, Education, Culture and Tourism Division, unpublished data; and Statistics Canada [1990].

Table 8

Full-time completions by women in trade and vocational programs, by program type, Canada, 1983-84 and 1986-87

	1983-84			1986-87		
	Women	Total[1]	Women as a % of total[2]	Women	Total[1]	Women as a % of total[2]
	(Number)			(Number)		
Program type						
Preemployment	14,216	59,428	34.8	15,039	51,500	41.3
Registered apprenticeship	959	43,827	3.6	886	35,005	3.1
Prevocational academic upgrading	6,100	21,530	43.3	9,142	19,045	58.9
Language training	3,132	10,805	43.9	3,952	11,439	42.0
Skill upgrading	1,196	11,605	30.7	1,115	9,449	35.8
Basic job readiness training	2,071	4,669	54.5	4,554	6,066	79.2
Orientation	2,424	3,822	80.5	2,831	4,102	80.9
Special training	484	1,981	34.1	1,152	2,409	59.4
Total all programs	30,582	157,667	30.4	38,671	139,015	37.2

1 Totals are composites, including some estimates verified by provincial governments.
2 Women as a percentage of the total is calculated on the basis of those completions where sex is reported. Depending on the category, reporting on sex ranged as low as 33 per cent and as high as 95 per cent.

Source: Statistics Canada, Education, Culture and Tourism Division, unpublished data; and Statistics Canada [1990].

Why do enrollment differences persist? The answer lies in the interaction between the socialization and aspirations of young women and young men and the organization of schooling and credentialling. It is important that gender not constitute a barrier to enrolling in any kind of educational program. Young women choose a remarkably few occupations at the moment, and broadening their vision of work is important. The crowding of women into a few, usually low-paid, fields prevents them from expressing the diversity of their interests, aptitudes, and enthusiasms. Policy initiatives directed towards moving young women and young men into a wider variety of programs, and particularly towards getting young women out of traditionally female and low-

paying areas and into traditionally male and higher-paying areas, need to be encouraged.

Several studies on the concerns and aspirations of young women have been published by government bodies and academics in the past few years, suggesting that they are of considerable concern to policymakers and the public [Labour Canada 1986; Canadian Advisory Council on the Status of Women 1985; Day 1990; CTF 1990; Gilligan et al. 1990; Gaskell 1983; Kostash 1987]. Although young women are now aspiring to more participation in the labour force, and in more diverse areas, there are still large differences between the aspirations of young women and young men. Young women are more likely to want and expect jobs in the traditionally female labour market, as nurses, teachers, and clerical workers [Labour Canada 1986; Canadian Advisory Council on the Status of Women 1985]. Young women are more concerned about family issues and relationships, and their domestic and personal aspirations shape and constrain their aspirations for paid work. A recent study by the Canadian Teacher's Federation concluded that the young women they talked to "reflected deep resentment towards their male peers, their apparently carefree lives and their violence" [1990, 21].

All of these are related to the way young women enroll in programs of study [Gaskell 1985]. They avoid courses that are overwhelmingly male because of the sexual harassment that can be involved and the awkwardness that can be entailed. They take courses that they think will prepare them for the traditionally female labour market, where they think they can find jobs, will not be discriminated against, and will feel comfortable. While they believe in equal opportunity, they try to be realistic about what the world offers, and this leads them to a fairly conservative assessment of their chances, especially if they are not academic high flyers or from privileged families. Gilligan et al. [1990] conclude that adolescent girls need to be encouraged to take risks, to speak out, and to have the confidence to assert themselves.

However, the aspirations and beliefs of young women do not arise in a social or institutional vacuum, but in the context of families, schools, and social services. Families can support or constrain their daughters. Schools and social service agencies can reinforce tradition or help young women try out new options and realize more equality. There are a variety of school-based programs that need more public support. After school classes to encourage girls in nontraditional areas, nonsexist career education, career conferences focused on breaking down stereotypes, visiting women scientists, math anxiety clinics, and in-service programs for teachers focused on gender equity have been tried successfully by some school districts [Becker 1987; Wiggan 1988]. The provision of child care for mothers who want to continue their education increases their ability to stay in school. The adoption of equal opportunities policies, which encourage discussion of gender issues in public fora also make a difference [Burton 1986; Klein 1989].

The structure of programs and their admission requirements have an important impact on how young women's preferences are translated into course enrollments. To take a simple example, girls can drop out of math in grade 11 because the course is not compulsory. All students, however, have to take grade 11 English courses. There are many other examples. Medical schools have changed their admissions requirements so that arts as well as science graduates are eligible. This has had a substantial impact on the number of young women who are qualified to apply. In the secondary school, the introduction of a single course that combines the study of cooking, carpentry, drafting, sewing, and electronics for all students and replaces the previously existing options of home economics and industrial education, has gone a long way towards reducing differential enrollments. A redesign of more programs so that sex segregated options were not available and/or not vocationally necessary would reduce sexual segregation in schooling. The educational benefits would also be substantial. Medical doctors and engineers need humanities courses, and teachers need preparation in science.

Increasing the competence and aspirations of young women goes hand in hand with changing the curriculum. For by and large young women must be enticed into traditionally male areas, not just by advertising and exhortation, or even by the lure of higher salaries, but by teachers and employers who respond to their needs and a curriculum that recognizes their interests.

Attracting women into traditionally male areas must be accompanied by attempts to revalue those areas of the curriculum where women have predominated. If women successfully compete for the higher status programs and the higher paying jobs, who will remain in the fields of teaching, nursing, clerical work, and child care? These fields have been filled by high-achieving women who saw few options for themselves. A decline in the competence of the people who fill these jobs could cause serious economic and social problems. These areas of study and work should not become second choices for those who cannot get into medicine or law. As options for women open, revaluing their traditional areas of study and work is part of the economic and educational readjustment that is involved in rethinking gender relations.

The Curriculum and the Learning Environment

What knowledge is of most worth and to whom? How can knowledge be most effectively transmitted? Although questions of equal opportunity and equal achievement in school have preoccupied feminists for centuries, the question of what should be taught and how has come to complement and even supplant it. What goes on in the classroom is critical for equal opportunity as well as for equal citizenship. How well does the curriculum serve women?

Stereotyping in the Curriculum

The first attempts at this question emphasized the harmful effects of stereotyping, especially in textbooks. In 1970, the Royal Commission on the Status of Women concluded, after examining textbooks used to teach reading, social studies, mathematics, and guidance courses, that the problem with the school curriculum was that

> a woman's creative and intellectual potential is either underplayed or ignored in the education of children from their earliest years. The sex roles described in these textbooks provide few challenging models for young girls, and they fail to create a sense of community between men and women as fellow human beings.

Numerous studies in the 1970s further documented the findings of the Royal Commission and criticized the omission of women from curricular materials. Studies done by teachers' federations, community groups, and academics emphasized the destructive impact of sex stereotyping in the curriculum [Pyke 1975; Gaskell 1977; Fisher and Cheyne 1977; Batcher et al. 1975; Women in Teaching 1975; Pascoe 1975; Cullin 1972]. These studies revealed that women and girls were underrepresented in school books, and that when they were represented, they were stereotyped. Boys were also stereotyped, but in more powerful and active roles. Little girls in elementary texts played with dolls, while their brothers played baseball; mothers wore aprons and baked cookies, while fathers drove off to work; adult women were princesses and witches, while men were doctors and farmers. The stereotypes were also blatant in television programs, commercials, magazines, and newspapers.

The research, in combination with political lobbying, had an effect. Under pressure from women's groups, publishers and ministries of education across the country issued nonsexist guidelines, appointed advisory groups to screen educational texts and media, and developed and published alternative materials. Classroom materials have become more diverse and less stereotyped as a result.

This is not to argue that the problem has disappeared. The old books continue to be used because of the costs of replacing them. The implementation of nonsexist guidelines is more difficult than their promulgation [Galloway 1980; National Film Board 1986]. In 1988, the Federation of Women Teachers in Ontario published *The More Things Change . . . the More They Stay the Same*, a study of elementary readers in use in the province. They showed that the stereotyping that had been documented 20 years ago was still prevalent in Ontario texts. Occupations in these texts continue to reflect a sex segregated labour market. Women are nurses and men are truck drivers; women care for others, while men are less emotional; the man "plays golf," while the woman "is a true and loyal friend"; the man is "charged and sentenced for robbery," while the woman "joins husband flying to Montreal," and so

on. These texts reflect the continuing sexual division of labour in Canadian society.

Should texts portray a world that is more equitable and less organized by gender than the real world? The Federation of Women Teachers of Ontario argues that texts should show possibilities for young people. "Children must meet females and males in equal numbers who are intelligent, independent and competent." But this must be balanced with showing children a world they recognize. Creating an idealized world of equality in textbooks is not a solution to sexism; it may conceal the problems instead of confronting them.

Studies have also documented a wide variety of ways in which sexual stereotypes pervade classroom interaction. Boys fetch the projectors, and girls clean the brushes. Girls do projects on seeds, and boys do projects on electric motors. Girls play in the doll corner, while boys play in the big block corner. In computer classes, boys exclude girls from the informal groups which gather around the terminals. Studies of science classrooms have emphasized the phenomenon of boys "hogging" the equipment, while girls stand by and watch [Klein 1989; Stanworth 1983; Sadker and Sadker 1982; Sadker et al. n.d.]. Studies of classroom interaction show that teachers pay much more attention to boys in class, even though they are unaware of doing so. Boys tend to be evaluated by teachers as more intelligent and inquiring, but less well behaved. Girls are evaluated as more docile, more hardworking, more likely to get the right answer, but less intelligent. Girls seem to get penalized for doing what the teacher asks, both by getting less attention and by being thought of as less capable in the long run.

The use of nonsexist language in instruction and in course materials, the existence of female teachers and administrators as role models for young women, and a welcoming stance towards female students by teachers can also change the climate in classrooms. Teachers who notice and stop sexual harassment in its little day-to-day forms can make a difference. The following excerpts from a recent study in grade 8 classrooms [Eyre 1991] illustrate something about the gendered character of classroom climate and the difficult task teachers have in trying to intervene. The interviewer is asking the students about the use of language to insult girls;

> Student: Oh, cow's a normal one, yeah. That's what guys call girls when they get mad at them. . . . It doesn't bother me cause I don't really care you know. . . .
>
> Interviewer: Do they call you anything else?
>
> Student: Slut, tramp, ig, whore, bitch, stuff like that. I just tell them to shut up.

or, on the segregated seating patterns that were obvious in a supposedly integrated classroom: "Student: If you sit with the guys the girls would say you're boy crazy and all those things."

The gendered patterns of interaction are absolutely central to the students' experience of being in school. Producing a classroom climate where gendered patterns of segregation and domination do not interfere with learning is a complex task for the teacher.

Getting rid of a double standard, including girls equally with boys in texts and in classroom processes, and encouraging independence, achievement, and cooperation in both males and females is the message of this literature. It suggests educators should treat girls and boys alike, and become "gender-blind," for stereotypes have produced inequities.

A Feminist Curriculum

A second approach to curriculum and pedagogy suggests educators should stress "gender sensitivity" rather than "gender blindness." The two overlap, for as the previous example from Eyre suggests, getting rid of stereotypes may imply becoming aware of gender. Much of the recent literature argues that instead of ignoring gender differences, educators should take care to notice them, so that curriculum and pedagogy can change to include women's concerns. Too often the school curriculum has started with the needs of men, and this has shaped not only textbooks, but our conceptions of what should be taught in schools, and how and why. To worry only about stereotyping women is to ignore the fundamental ways in which knowledge and the structure of educational institutions have been based in men's experience of the world.

Of course "women" is no unitary category with a single set of concerns and a single learning style, although some of the feminist critique has unfortunately been couched in these terms. Feminist calls for curriculum reform amount to asking schools to recognize the diversity of women's experiences, and thus the diversity of all students' experiences, instead of assuming a single kind of ideal student or ideal outcome.

The poet Adrienne Rich states the concerns and issues in her essay, "Taking women students seriously" [1979, 243]. She says,

> Listen to the voices of the women and voices of the men; observe the space men allow themselves, physically and verbally, the male assumption that people will listen, even when the majority of the group is female. Look at the faces of the silent and of those who speak. Listen to a woman groping for language in which to express what is on her mind, sensing that the terms of academic discourse are not her language, trying to cut down her thought to the dimensions of a discourse not intended for her. . . .

Making the classroom more "girl friendly" is one way of thinking about incorporating women's experiences into the school [Whyte et al. 1985]. It refers to ways of transforming classrooms so that girls feel comfortable, welcomed, and included. It implies changes in curriculum content as well as in pedagogy and is articulated most often in connection with courses in mathematics, science, and technology, courses which girls have not experienced as "friendly." The recently noted drop-off in girls', especially white girls', self-confidence in adolescence can also be related to classrooms where their abilities and preferred ways of learning and talking are not recognized [CTF 1990; A.A.U.W. 1991; Gilligan et al. 1990]. There is a significant literature on university classrooms that refers to their "chilly climate" for women and makes suggestions for similar changes [Briskin 1990; Project on the Status and Education of Women 1982].

Margaret Eichler and Jeanne Lapointe [1985, 5] point out that scholarship that does not take adequate account of women is simply bad scholarship.

> As long as women were *de facto* excluded from intellectual work and higher education, sex related bias in research was not widely recognized as a problem for the social sciences and humanities. Culture and our way of thinking were shaped by a male perspective which applied even when the life, identity and thought of women were considered. There was little or no awareness that such an androcentric perspective generates serious intellectual problems. Central concepts were seldom examined with respect to their applicability to both sexes, and sexist language was usually uncritically accepted, in spite of its inexactness.

Increasing awareness of male biases in traditional scholarship has been one of the most important and intellectually significant forces changing academic work in every discipline and field of study [Eichler 1990; Strong-Boag 1983; Boxer 1982; Keohane et al. 1982; Schuster and Dyne 1985; Aisenberg and Harrington 1990]. New topics of study, from women's work during industrialization to the ethics of mothering, have appeared. Old concepts, like periodization in history, genre in literature, the public and the private in political science and economics, have been rethought. Although the progress remains slow and far from even, incorporating this work into the university and the school curriculum will help transform it into a nonsexist body of knowledge.

This wide-ranging critique makes the process of putting women back into the curriculum a difficult task. It is relatively straightforward to put the suffragists and the first nations women who organized the fur trade back into the history books, to add a few novels written by women into the literature curriculum, and to add some women artists to the arts syllabus. It is quite another thing to change the way we approach historical, literary, and artistic study, and the criteria we use to assess its significance and value. Women's

challenge to the academy is a formidable one, although one could argue that calling for this process of reevaluating, challenging, and rethinking is simply to call for the university to live up to its own ideals of excellent scholarship and be aware of its gender biases in the process.

What has been taught in schools has been designed to prepare people for the highly valued public spheres of work and citizenship, but it has ignored the less highly valued private spheres of family and friendship. Men have dominated in this public sphere, and education has in this sense been designed for their needs. The philosopher Jane Roland Martin has articulated the case most persuasively [1982 and 1985]. Going back to Rousseau's discussion of Emile, whose education in rationality and autonomy has become the model for our public schools, she shows that Rousseau was preparing Emile for his life as a statesman, and leaving Sophie, his wife, to learn, through an entirely different education, the "womanly arts" of nurturance and caring for the home. Rousseau specified two forms of education, one for women and one for men. Today public education includes the kind of education he specified for men, but neglects the kind of education he specified for women. But Emile depended upon Sophie being well educated as a woman, in order to be able to carry on as a citizen and statesman. And today, Martin argues, we need more people – men and women – educated as Sophie was, to care and nurture.

Martin argues that the ideal of the educated person has been based in the male stereotype – objective, analytic, rational, interested in ideas and things, but not nurturing, emphatic, intuitive, or supportive. Education has emphasized the development and application of reason and objective judgment; it has separated the mind from the body, thought from action, and reason from emotion. Today, she argues, all students must learn to deal with emotion as well as reason, social as well as intellectual issues. The three C's of caring, concern, and connection must be added to the three R's, for we can no longer expect women to shoulder the burden of learning the three C's privately, and doing it for all of us. We can no longer exclude what has been relegated to women from the curriculum.

This is not just a question of adding a new course to the curriculum. It involves rethinking the structure of schooling, for "not only are the goals of schooling primarily male and public, but the process by which knowledge is transferred in schools is based on male development" [197-98]. The notion that male development is fundamentally different from female development is a mistaken and potentially dangerous one. However, a burgeoning and popular research literature is exploring how gender does make a difference to the ways we learn and reason, because gender makes a difference to how people live [Belenky et al. 1986]. What is good for males is not necessarily good for females; what is good for one child is not necessarily good for all. If female students are learning in institutions which are based on male models of

development, which value male skills and ways of reasoning, and which pay more attention to male learning, they are not getting an equal education. If opportunities are not given for students to learn in different ways, as befits their background and interests, we are not serving all children well.

Women's Ways of Knowing [Belenky et al. 1986] is a book that has garnered a great deal of interest because it explores the differences between the ways men and women learn to understand their relationship to knowledge. The authors argue that women come to understand knowledge as constructed, not given, as connected to, not separated from experience. They argue that women's development looks different from men's development, and that education must be organized in ways that promote women's development. The authors call for "connected teaching," arguing that women are more likely to learn in ways that explore and relate their experience to the curriculum. They call for problem posing, instead of lecturing, for the teacher as "midwife," instead of imparter of knowledge, for a "yoghurt" class, which provides a culture for growth, as opposed to a "movie" class, where the students are spectators. They conclude,

> We have argued in this book that educators can help women develop their own authentic voices if they emphasize connection over separation, understanding and acceptance over assessment, and collaboration over debate; if they accord respect to and allow time for the knowledge that emerges from firsthand experience; if instead of imposing their own expectations and arbitrary requirements, they encourage students to evolve their own patterns of work based on the problems they are pursuing.

Carol Gilligan's work on women's approach to ethical dilemmas points similarly to ways in which women tend to reason morally differently from men. Gilligan starts by listening carefully to how women view justice. She describes women as holding more often to an ethic of care, basing morality in a sense of correctedness and responsibility, rather than in a version of universal rules and individual rights. Most schools are organized around an ethic of rights, rather than an ethic of caring. An ethic of rights emphasizes individual autonomy, but as Gilligan says, "it may appear frightening to women in its potential justification of indifference and unconcern. At the same time, . . . from a male perspective, a morality of responsibility appears inconclusive and diffuse given its insistent contextual relativism" [1982, 22]. The ethical basis of schooling will profit from more regard to what an "ethics of care," or "maternal thinking," to use a term from ethical philosopher Sara Ruddick [1989], who points in some of the same directions, might entail.

These models of female development and its differences from male development are full of potential pitfalls and stereotypes. Not all women follow the "female" model. Gilligan's research has been based primarily on privileged young women at a private school in New York, and the Belenky study did not systematically compare men and women. What this research does do,

however, is pose questions about the models of development that underlie our educational practices, and point out that there are differences that need to be taken into account, and that are likely to be gendered. These researchers call for an increasing sensitivity to how women learn and reason, and ask that educators pay as much heed to women as they have paid to men.

The specific implications for schools are many. In science, it leads to exploring the ways science classrooms can be tailored to girls' needs. Girls seem to respond to a more socially relevant science curriculum, where the implications of the activity are made clear, where teachers intervene to ensure equal participation, and where women scientists are discussed. Girls also seem to do well if examples are drawn from traditionally female spheres of activity, and if manipulative skills like tool use are taught explicitly, instead of being assumed. There are a number of studies that show that all female classes work well, as girls feel comfortable and do not feel as if they are invading male space [Whyte 1986; Collis 1987]. Broadly educated teachers who can make links across subject areas will be more able to create these kinds of classrooms. As Wiggan [1988] concludes, much of what is called for is competence in teaching content and methods, although I would add that competence is unfortunately not always defined to include sensitivity to gender issues.

In history, including the study of women means adding discussions of women's suffrage, women's participation in the fur trade, and the changing organization of family life, as well as discussing why women were excluded from positions of power. In English classes, it means examining novels and poems written by women, and exploring why nineteenth century women writers used male names. In art classes, it means rediscovering the work of women artists and asking why males produced "art" while women produced "crafts." In music it means exploring the musical experiences that women and girls have had. It also means recognizing that women have diverse backgrounds and experiences and not letting the experience of middle-class white women eclipse the experience of women from other cultures and races. A "friendly" curriculum means adding the study of Audre Lorde's poems to the curriculum, as well as adding Virginia Woolf's novels. It means adding the study of women's work in first nations families in Labrador as well as adding the study of pioneer women in Nova Scotia. In short, it means adding diversity to what has been a curriculum based in the history and experience of white men.

As soon as women's groups start asking for additions and changes to the curriculum, as they have, the rules for including and excluding curriculum content are opened up for discussion. Why does the curriculum emphasize what men have done? Because men have been powerful, and have shaped Canadian government, and decided what counts as good art, good science, and good writing. To add women's experience to the curriculum means

reexamining the rules that are used for making curriculum decisions and taking a new look at the way many subjects are conceived. The omission of women is not just a question of oversight. Our very conception of what is worth knowing and of the disciplines is challenged by the process of including women. What is suggested is mammoth in its proportions. What must be addressed is the whole way society is conceived and has been constructed.

If the people mentioned in history texts are those who have played an important role in governing the country, clearly women cannot be equally represented. To try to represent women while not changing the ground rules means adding only a few token women who do not quite meet the male standard, and thus reinforcing the tradition of female inferiority. Feminist scholarship is about challenging the standards themselves. Feminist historians have reemphasized social history and challenged conceptions of power that suggest all power lies in public institutions [Pierson and Prentice 1982]. In political science, the role of the public and the private are reconsidered [Elshtain 1981; Jaggar 1983].

While gender equity is sometimes taken to mean eliminating stereotypes and thus gender difference, gender equity can also mean recognizing gender difference, and changing education to include the ways in which women learn and understand. This involves challenges to the ethics of schooling, and to standards of good scholarship, to our notions of the educated person, and to teachers' expectations about learning styles. It is difficult to develop a curriculum that joins emotion to reason, and personal experience to knowledge. It is radical to insist that schooling recognize the importance of nurturing as well as independence, community as well as individualism, caring as well as responsibility. But this is what the women's movement has come to see as entailed in gender equitable education.

Strategies for reform are often targeted at teachers. Workshops and courses on gender equity have been sporadically mounted for teachers (see CEA [1988] for some examples). Teacher education programs are, slowly, including gender issues in their curriculum. Teachers' federations themselves have taken up the issues.

Such workshops and courses can offer few simple solutions. Often opening up the issues for discussion and examination is the most important step forward. How to effectively encourage female students to speak up in class and argue with the boys can be extremely complicated. How to end intimidation by the boys, how to get them to see sexual harassment for the problem it is, and how to encourage them to express their nurturant and expressive selves can be equally difficult. A skilled teacher must work with patience, empathy, and a firm commitment to equity, to create a classroom that works for both boys and girls.

In focusing on the teacher, it is important not to forget the context in which she or he works. By adopting statements of concern about gender issues, policies calling for gender inclusive language in school communication, assessment policies that are gender sensitive, and employment equity guidelines for hiring, school boards and ministries of education can encourage change.

The ability of schools to reconceive education in ways that are gender equitable depends also on changes in the economy, for schools will reflect as well as challenge patterns in the work force. If the economy continues to devalue the work women do, it is hard to believe schools will be able to revalue it. If the demands of paid employment leave too little time and energy for participation in the work that goes on in the private domain of family, the separation of these tasks is also likely to continue in the school. If men remain dominant in the economic sphere, their knowledge and concerns are likely to continue to shape the curriculum.

Linkages to Work

Would changes in what women learn in their levels and kinds of achievement in school and in their credentials and course enrollments make a difference to their incomes and their position in the workplace? The belief that it would is widespread. Education is seen by most parents as the route to prosperity and status in the adult world. It is clear that people with more education on the average earn more than people with less education. But the simple exchange of educational credentials for workplace advantage has not worked for women. As was pointed out earlier, women with the same education as men do not earn as much (see Table 3). The extent to which changes in education would make a difference for women depends on the organization of the workplace, and particularly on the way education is rewarded and organized in "women's" jobs as compared to "men's" jobs.

There are two kinds of questions to address here, both related to the role of education in differentiating labour markets and reproducing occupational segregation. The first question is why women who have the same kind of education as men do not earn as much. This leads to questions about women's aspirations, about discrimination in hiring, and the organization of job ladders and promotion. The second question is why the kinds of education that women have are not worth as much to employers, even when they represent the same number of years in school. This is a question that has been addressed by pay equity debates and policies.

The process of job segregation starts in the school, but it continues after students graduate and look for jobs, for some of the same reasons. Women

often have their own reasons for preferring traditionally female workplaces, because of the social relations involved, the nature of the work, and the ease of combining it with family responsibilities. Moreover, discrimination against women and the social relations of the workplace continue to push them into traditional jobs and to create a "glass ceiling," above which they cannot advance. Once in a job that has been predominantly female, a worker finds there are fewer opportunities for promotion and on-the-job training. The result is that even if a woman has an education that is the same as a man's, she is not likely to find herself in the same job with the same salary. The workplace systematically recognizes and rewards women's skills and education differently.

The solutions to this lie in workplace policies like employment equity which force systematic reporting of differences and firm based initiatives to increase opportunities and wages for women. Education will not produce equity in the workplace until women are treated equally at work, and until the environment is as friendly to women as it is to men. The necessity for child care, for ending sexual harassment, for recognizing women's knowledge and contributions extends from the school to work.

A second problem is that women's jobs do not reward education in the same way that men's jobs do. Women earn less than men, when their jobs have equivalent requirements for education, experience, skill, and working conditions [Oppenheimer 1970; England et al. 1988]. Several studies have found that the percentage of females in an occupation depresses wages even after measures of education and skill demands are controlled [McLaughlin 1978; England and McLaughlin 1979; Treiman and Hartman 1981; England and Norris 1985]. England [1982] concludes, based on these ratings, that "females actually have an advantageous occupational skill distribution on balance," meaning that the skills women are more likely to have (social and literacy skills, by and large) are skills that in the labour force as a whole tend to be rewarded with higher wages than the skills men have (physical strength, in particular). Managerial and professional jobs, after all, require literacy and social competence, and they pay much higher wages than the skilled construction trades and factory work which require physical strength and technical skills. The advantage women have in their skill profile is offset by the combination of extreme occupational segregation and the depressing effect on wages of the concentration of women in an occupation. Employers have simply been able to pay women less for their skills, because women have had less economic leverage. This is the argument for pay equity, and it is a powerful one.

Moreover, one can make an argument that even the high levels of education that are required for entry into women's jobs underestimate the complexity of the skills that are required for the work. Women's skills are often social skills that have been assumed to be part of being female, skills that

must be learned informally, instead of in credentialled programs that lead to recognition by the employer and the public of their worth. To put it another way, social/nurturing/caring skills are expected of women and therefore are not valued when they are displayed at work, while men are expected to learn something extra in order to perform in the workplace and are rewarded for the effort. This harks back to Martin's argument about Sophie's education. Social skills are not taken seriously in schools, even though they are required of women. Longer training programs restrict the supply of labour and publicly certify its skill. Doctors and engineers were able to insist on university preparation for their work; nurses and child-care workers were not. Although we have come to take this for granted, the historical struggles about forms of training were waged fiercely, and the outcome depended on many factors besides the complexity of the work involved. As Michelle Barrett [1980] puts it, "women have not been able to insist on the value of their skills."

Training for women's work is organized in ways that are different from training for men's work. Women have been less able to insist on licensing and regulation of training and have been less able to get on-the-job training [Wolf and Rosenfeld 1978; Madden 1973]. Specific job training for clerical work exists in the public secondary school, while male blue-collar jobs continue to require an apprenticeship, because organized unions had the power to insist. Opportunities for mobility through education are rarely built into women's jobs. Secretarial work is a classic example of this [Gaskell 1991].

This adds up to a series of questions that need to be asked about how education articulates with the workplace differently in male and female sectors, and how men and women have differential access to learning in their jobs. Employers should provide informal mentoring and opportunities for learning for women workers that are equal to the opportunities they provide for men, even if men and women are in different jobs. Employers should make available paid educational leaves, sponsorship into courses and credit for upgraded educational credentials in secretarial jobs as well as in managerial jobs, for nurses as well as for doctors, and so on. Gender equality in educational benefits should be documented and encouraged by both unions and employers.

Moreover, the process of recognizing and rewarding women's knowledge and skills must be held up to scrutiny. Policy addressed to women's education should be concerned with changing the expectations of employers and licensing boards and providing on-the-job training and job ladders, as well as with changing the publicly funded educational system.

Issues of Governance and Control

Women have always been well represented as educators, but have rarely been well represented in positions of public power and influence. Women

are all the mothers, most of the elementary school teachers, and half of the secondary school teachers. Enrollments in education faculties are overwhelmingly female. Teaching could be considered one of the quintessentially female occupations, even though it was not until the turn of the century that women were finally accepted as teachers within the public school system.

But women are not likely to be department heads, principals, superintendents, and university professors. At the Council of ministers of education, it is rare to find a woman, and meetings of the Canadian Education Association, which represents the major "stakeholders" in education, and most of the senior administrators, are overwhelmingly male. At universities, women still constitute only 6 per cent of the full professors and a much smaller percentage of deans, presidents, and vice-presidents. Control of what counts as knowledge, and control of schools and universities as institutions, still rest with men.

Equality of Opportunity for Educators

In the educational arena, as in the economy at large, jobs that are dominated by women are considered low status, are paid low wages, and provide their incumbents with little autonomy. University teachers determine their own curriculum; elementary school teachers follow the provincial guidelines and approved textbooks. University professors get paid more than twice what child-care workers get paid. The hierarchy is a gendered one, though it would be difficult to argue that the social value and the difficulty of the tasks performed by men and women are substantially different.

The gendered division of labour appears among areas of knowledge in teaching, as it does in learning. Women are English teachers and home economics teachers, not physics teachers and industrial education teachers. They are much better represented in nursing faculties than they are in faculties of commerce and law. Increasing the number of female instructors appointed in non-traditional fields was one of the principal measures endorsed by the First Ministers in 1985 in their paper entitled "Towards a labour force strategy: a framework for training women." It was one on which they were unable to report much progress in 1989.

The processes that exclude women from positions of control in education are as complex as they are anywhere in the labour market. Women's own preferences and socialization, as well as the opportunities that have been available to them, are important. But from school boards who refuse to hire married women to teach, to selection committees for principals that are skeptical about women's ability to be authoritative, to university hiring committees who do not see women's scholarship as important, discrimination has been part of the educational process. Equal opportunity for women as teachers and educators must be taken up alongside equal opportunities for students.

Some school districts and ministries of education have begun initiatives to advance women [CEA 1988]. Employment equity programs involve the systematic monitoring of who holds what jobs so that areas of concern become publicly apparent, and comparisons can be made across jurisdictions. Employment equity puts the responsibility on the shoulders of the employer for ensuring an increase in the representation of women in categories where they have been underrepresented. Such programs signal an end to the process of blaming women for their lack of ambition and competence, and a shifting of responsibility to the school system for ensuring equality for women.

Universities have been forced into employment equity because the federal legislation specifies that institutions with large contracts with the federal government must comply. The program is new, and its effects are still uncertain. However, it has led to the appointment of employment equity officers at universities across the country, and to increased attention to the gathering of statistics and to the processes of hiring. Its effects on the representation of designated groups in the labour force at universities remain to be seen.

At the school-board level, employment equity has been taken up more slowly. The CEA reported in 1988 that 15 of the sample of 83 school boards who responded to their questionnaire indicated that they had hired an employee who works specifically on affirmative action. The number is not large, although it undoubtedly underrepresents the actual number of such employees. Some boards like Toronto and North York are well known for their commitment to hiring women as principals, and Ontario has new legislation that will increase the hiring of women as educational administrators. Ensuring administrative training specifically for women has also been found to be effective in increasing the number of women who are interested in and qualified for administrative positions.

Employment equity does not mean always hiring a woman. It means working towards a more equal representation of women in positions from which they have been excluded. It recognizes that men have in the past been privileged by the fact of their maleness, and argues that women should be given the opportunity to display their competence. It means ensuring that the definition of what it takes to do the job well pays as much attention to the strengths women bring to the role, as to the strengths men bring. It does not replace the necessity of making difficult judgments, based on merit, with an arbitrary criterion of gender. It means that gender must be taken into account, and that we can no longer pretend that any hiring decision is gender blind.

The question of whether women will administer in ways that are different from the ways men administer is a difficult and interesting question [Shakeshaft 1987; Valentine and MacIntosh 1990]. Some of the research on women as administrators strikes the same themes as the work by Gilligan

and Belenky, which was discussed previously. Women tend to be more nurturant, less hierarchical, and more consultative as administrators. Many consider this to be more "effective," although not all. But whether women will turn out to be different from men if they are hired in equal numbers is not what should determine their hiring. Women should be department heads and principals. They should teach science as well as languages. They should do research and create new scholarship at the universities, and they should make curriculum decisions in ministries of education and school boards, as well as in their own classrooms. It is important to have women represented at the top in order to create equality for women as educators. But it is important also to bring women's experiences, networks, and understandings to decision making around educational issues. It is important to provide young women with role models that challenge the traditional stereotypes, and show that women can do it, and do it well.

Sharing Power

The women's movement has combined arguments for advancing women within the existing structures with arguments about restructuring relations of power and providing more access to decision making for those who have traditionally been excluded. The devaluation of the work of the teacher (who is more often a woman) in relation to the work of the administrator (who is more often a man) is an issue that women as teachers have taken on. When educational changes are proposed, it is administrators who are consulted more often than teachers. It is those furthest from the classroom who have the resources and time to make sure they are heard. Classroom teachers too often feel ignored and powerless to control the environment in which they teach.

Respecting the teacher in the classroom, however, remains the best way to ensure good education for children. A large number of recent calls for reforms in education reiterate the same point. It is the teacher who must believe that change is necessary. Only if schools have the responsibility to devise and implement educational reforms as best suits their particular students and their particular context will the reforms be successful. Respect for the teacher as a responsible professional is at the heart of educational reform [Goodlad 1984; Holmes Group 1986; Sullivan 1988; Lieberman 1989].

The devaluation of the work of the mother in relation to the work of the professional, and paid, teacher is an issue that is less often addressed. But concern about the devaluation of women's educational work must include attention to the work that mothers do in the home with their children. The work of mothering is too often invisible, taken for granted, and then criticized. Teaching has often been perceived as making up for inadequacies of the home – in other words the mother – especially the poor mother. Research

on the home-school relationship focuses on how the cultures of specific types of families (e.g., working class, immigrants, and natives) deprive children of advantages that are taken for granted by the educational system. This research makes little reference to the work of mothers in its abstracted reference to "families," but it is mothers who do the work. It blames mothers for any failures in their children, but takes their work for granted.

Teachers and mothers share a concern for the well-being and education of children, but their relationships to each other are complex, shifting, and strongly shaped by social class and ethnicity as well as by gender [Lightfoot 1978; Grumet 1988; Acker 1989]. The relationship of mothers and teachers, the women who work with children in the home and the school, has often been antagonistic. Mothers and teachers are too often pitted against each other and blamed for the failings of each other.

Instead, we need to look at the structures that marginalize and devalue them both, making it difficult for them to care for children. Though children are often touted to be our most valuable resource as a society, the actual work of raising them is trivialized and poorly paid. Child-care workers are paid lower wages than zookeepers, as a national task force report emphasized in 1986. Social changes have increased the demands put on teachers. Mothers with young children are more likely than not to work outside the home. Resources of both money and time are scarce.

As women take on more professional, full-time jobs, as they move into the jobs men have had on a more equal basis, they have less time for their children, their friends, and their husbands. A gap is being left to be filled perhaps by more child-care workers who are not well paid, perhaps by community services which are not well funded, perhaps by men who increase their hours of work in the home, or, perhaps, it is not being filled, and the quality of all our lives diminishes. Equality for women involves changes in education, work, and family life, changes for men, as well as changes for women.

Revaluing the work that is done by women with children and rethinking power relations in schools are combined with programs for employment equity on a feminist agenda for education. These are attempts to ensure that the voices of women are heard when educational decisions are made and that the quality of these decisions is improved.

Conclusions

The women's movement has addressed most aspects of education, asking for equal representation for female students and female educators, but in the process asking for a reshaping of the institution in some fairly fundamental

ways. The women's movement poses the challenge of rethinking standards of excellence, measures of achievement, criteria for knowledge and forms of governance. The women's movement does not have all the answers, and it has changed its answers over time, but it does engage and contribute to some of the most difficult and persistent concerns in our ongoing dialogue about education.

There are many policy implications that might be drawn from this overview of educational issues from the perspective of the women's movement. There are implications for educational administrators, for employers, for unions, and for teachers, at all levels of the educational system. The things women learn and do well should be valued as highly as the things men learn and do well, for society is a cooperative endeavour that depends on both. Women's contributions have not been rewarded equally with men's, either in wages, in esteem, or in power. This is what the women's movement wants to change.

This means that measures of achievement should reflect the ways women do things, as well as the ways men do things, whether one is measuring mathematical ability or measuring the competence of candidates for principalships.

It means decisions about what to teach should reflect what women want and need to know, as well as what men want and need to know. Job training programs should be available in women's jobs, to teach the skills women need at work. Literature classes should teach the work written by women. Learning for interpersonal challenges is as important as learning for technical challenges.

Child care is education and must be paid for. The work of teaching in the classroom matters as much as the work of administering. Women's skills must be rewarded in the workplace. The agenda is a long and complex one, but worth engaging, for both men and women.

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